SARACHA SPINOSA—A NEW COMBINATION IN PERUVIAN SOLANACEAE

The name *Saracha* R. & P. was long misapplied to the group of herbaceous neotropical plants now correctly known as *Jaltomata* Schldl. (Gentry, 1973). With reestablishment of the name *Jaltomata* for the herbaceous plants, the need for reinstatement of *Saracha* to the group of shrubs of upland South America that had long been erroneously known as *Poecilochroma* Miers became evident. The redefinition of *Jaltomata* was followed by D'Arcy (1973: 626, 1986: 28), Gentry & Standley (1974: 42), Hunziker (1979: 53), and Nee (1986: 76) and the reinstatement of *Saracha* by Hunziker (1979: 56). Both genera are in need of revision, and not all combinations have been made to recognize the restored generic names. However, determination of a collection made in the course of preparing a flora for Huascarán National Park in the uplands of the Cordillera Blanca in northcentral Peru (Smith, in prep.) requires the following new combination:

Saracha spinosa (Dammer) D'Arcy & D. N. Smith, comb. nov. *Poecilochroma spinosa* Dammer, Bot. Jahrb. Syst. 37: 637. 1906. TYPE: Peru. *Weberbauer 2907* (B, not seen, destroyed; photo, MO).

Copiously armed shrub with long, trailing or weeping branches; twigs glabrate, sometimes with minute simple trichomes; leaves of many short shoots caducous and leaving behind sturdy, grayish, acicular spines 8–25 mm long. Leaves entire, elliptical, obtuse or rounded at each end, mostly 12–20 mm long, coriaceous, glabrous or with minute simple trichomes, shiny above, the margins subrevolute; petioles 2–5 mm long. Inflorescences consisting of solitary terminal or axillary flowers; peduncles wanting; pedicels slender but broadening upwards, 10–15 mm long. Flowers pendant, the calyx cupular, ribbed, dentate, sometimes irregular, 6–8 mm long, sometimes splitting; corolla apically plicate in bud, narrowly campanulate, ca. 20–25 mm long, ca. 15 mm wide at the mouth, the apex truncate with 5 deltoid teeth 2 mm long; yellow and evenly minutely puberulent outside, inside basally uniformly dark violet, this reduced upwards to a field of lobes and spots and pure yellow at the apex; filaments ca. 15 mm long, inserted at the base of corolla tube, glabrous and unappendaged, the anthers oblong, apiculate, basally cordate, 4–5 mm long, yellow, included; ovary obconical, 4 mm long, the basal third enveloped in nectary, glabrous, the style glabrous, exserted beyond the anthers and nearly equalling the corolla. Fruit (not preserved) a leathery berry about the size of a gooseberry, perhaps 7 mm across.

Saracha spinosa is a weak, clambering shrub that assumes a down-curving, weeping habit when it lacks support. The branches can reach several meters in length. The corollas are not so broadly campanulate as in other members of the genus. The plicate folds in the corolla in bud were not found by Hunziker (1979: 58) in the species he discussed. *Saracha spinosa* is further distinct from other members of the genus in having formidable slender spines which apparently derive from short leafy shoots in the manner of *Dunalia spinosa, Iochroma horrida,* and some other related Solanaceae. The spines on the specimen at hand are copious, ascending, 8–25 mm long, and needlelike. Fruit was not available for dissection to ascertain the details referred to by Hunziker (1979: 58) in his notes on three other species of *Saracha.*

In his discussion under *Poecilochroma* in the *Flora of Peru,* Macbride (1962: 58) suggested that this species is similar to *P. lindeniana* Miers and to *P. lobbiana* Miers, but both of these are unarmed and have more open campanulate corollas, as is to be seen in the type illustration and photos examined of these two species.

The collection made in this study bears a remarkable similarity to a specimen of *Dunalia* collected by López & Sagástegui which we tentatively refer to *D. spinosa* (Meyen) Dammer. The leaves of the López & Sagástegui collection are small and elliptical like those of our collection of *Saracha* and unlike the larger oblanceolate leaves of other specimens of *D. spinosa,* including the type collection (*Meyer,* BM, destroyed, photo MO). The flowers, too, are superficially similar but narrower, and of course the filaments have the basal appendages characteristic of the genus *Dunalia* (Hunziker, 1959–60: 212). Had we not examined the interior of the flowers, we would have thought these the same species, not different genera.

The great similarity between *Saracha spinosa*

and the neighboring *Dunalia* within adjacent parts of Peru argues a need for unusual care in determining specimens of these plants and caution in accepting past determinations. Under his treatment of *Saracha* (*Poecilochroma*) *spinosa* Macbride cited the following four specimens, which appear to be at least geographically consistent: Dept. La Libertad: Prov. Bolivar, *Ferreyra 1254*; Prov. Santiago de Chuco, toward Angasmarca, *West 8162*. Dept. Ancash: Prov. Huari, 3,600 m, *Weberbauer 7014*. Dept. Ayacucho: Prov. Huamanga, above Quinua, *Weberbauer 5542*.

Saracha spinosa is apparently restricted to interandean valleys of the western and central chains of the Peruvian Andes. It has an extended range of about 700 km, within which, at least according to Weberbauer (1945: 420), the species is sometimes locally common. Collection sites known to us show that it occurs in shrubland ranging from about 78°05′W to 74°08′W and from about 7°22′S to 8°05′S. The species has an apparent elevation range from 3,300 to 3,700 m. The type locality, which was imprecise, is near or within Huascarán National Park.

The Park is in the Ancash Department of central Peru, 300 km (air distance) north of Lima. The reserve occupies nearly all the Cordillera Blanca, which is the world's highest tropical mountain range. The cordillera is located between 8°50′S and 10°00′S latitude and between 77°05′W and 77°49′W longitude with a north–south length of 158 km and an area of 340,000 ha (131 sq. mi.). The elevation range is from 3,240 m to the 6,770 m summit of Nevado Huascarán Sur, the bulk of the Park above 3,500 m. The outcrop is a mixture of igneous and sedimentary rocks. The cordillera was extensively glaciated and still has many glaciers and icefields. Its topography is complex and supports a mosaic of vegetation types. The most diverse and densest shrub communities are found in the valleys reaching lower elevations (3,500–3,800 m), where the microclimate is warmer and moister. Although valleys with these conditions are found on both sides of the cordillera, the greatest number are on the eastern side.

In over a year of field collecting throughout the entire park, *Saracha spinosa* was located only once, in Quebrada Rurichinchay near the valley bottom in a community dominated by *Miconia salicifolia* and with *Alnus acuminata, Myrica pubescens, Vallea stipularis,* and *Weinmannia* aff. *laxiflora*.

SPECIMENS EXAMINED

Saracha spinosa. PERU. DEPT. ANCASH: Prov. Huarí, Huascarán National Park, Quebrada Rurichinchay between boundary and Quebrada Pachachaca. 3,600–3,700 m, *D. N. Smith 12475* (CPUN, HUT, MO, USM, dupla). DEPT. AYACUCHO: Prov. Huamanga, road from La Quinua to Abra Apacheta de Tambo, 12,000 ft., *Plowman & Davis 4651*.

Dunalia aff. *spinosa*. PERU. DEPT. LA LIBERTAD: Prov. Bolívar, Laguna de Los Ichus, al pié de rocas, 3,600 m, *López & Sagástequi 3241* (MO).

This study was supported by National Science Foundation Grant BSR-8305425.

LITERATURE CITED

D'ARCY, W. G. 1973 [1974]. Solanaceae. *In* Flora of Panama. Ann. Missouri Bot. Gard. 60: 573–780.

———. 1986. The genera of Solanaceae and their types. Solanaceae Newsletter 2(4): 10–33.

GENTRY, J. L. 1973. Restoration of the genus *Jaltomata* (Solanaceae). Phytologia 27: 286–288.

——— & P. C. STANDLEY. 1974. Solanaceae. *In* Flora of Guatemala. Field Mus. Bot. 24(10-1&2): 1–151.

HUNZIKER, A. J. 1959–60 [1960]. Studios sobre Solanaceae. II. Sinopsis taxonómica del género *Dunalia* H.B.K. Bol. Acad. Nac. Ci. Córdoba (Argentina) 41: 211–244.

———. 1979. South American Solanaceae: a synoptic survey. Pp. 49–85 *in* J. G. Hawkes et al. (editors), The Biology and Taxonomy of the Solanaceae. Academic Press, London.

MACBRIDE, J. F. 1962. Solanaceae. *In* Flora of Peru. Field Mus. Bot. 13(5B-1): 3–269.

NEE, M. 1986. Solanaceae I. *In* Flora de Veracruz, Fasc. 49. Inst. Nac. Invest. Recurs. Bióticas, Xalapa, Veracruz, Mexico.

WEBERBAUER, A. 1945. El Mundo Vegetal de los Andes Peruanos. Min. Agric., Lima.

—*William G. D'Arcy, Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, U.S.A.; and David N. Smith, Missouri Botanical Garden and Department of Botany, Iowa State University, Ames, Iowa 50011, U.S.A.*